

In the Claims

1. (Currently Amended) A stainless steel for a proton-exchange membrane fuel cell separator, having a composition comprising 0.03 mass % or less of C, 16-45 mass % of Cr, 0.03 mass % or less of N, 0.1-5.0 mass % of Mo, wherein a total of the C content and the N content satisfies 0.03 mass % or less; a balance portion is comprised of Fe and unavoidable impurities, ~~[[;]] and having with respect to Al, Cr, and Fe contained in~~ a passive film on a surface of the stainless steel with an atomic ratio of Cr/Fe which is 1 or greater~~[[;]]~~ and an atomic ratio of Al/(Cr+Fe) which is less than 0.10.

2. (Currently Amended) A stainless steel for a proton-exchange membrane fuel cell separator, having a composition comprising 0.03 mass % or less of C, 0.03 mass % or less of N, 20-45 mass % of Cr, and 0.1-5.0 mass % of Mo, wherein a total of the C content and the N content satisfies 0.03 mass % or less; a balance portion is comprised of Fe and unavoidable impurities, ~~[[;]] and having with respect to Al, Cr, and Fe contained in~~ a passive film on a surface of the stainless steel with an atomic ratio of Cr/Fe which is 1 or greater~~[[,]]~~ and an atomic ratio of Al/(Cr+Fe) which is less than 0.05.

3. (Currently Amended) A The stainless steel ~~for a proton-exchange membrane fuel cell separator~~ according to claim 1, wherein ~~in addition to the composition,~~ the stainless steel further comprises at least one selected from a group of items (1) - (4):

- (1) Si: 1.0 mass % or less;
- (2) Mn: 1.0 mass % or less;
- (3) Al: 0.001-0.2 mass % or less; and
- (4) Ti or Nb: 0.01-0.5 mass %; or a total of Ti and Nb: 0.01-0.5 mass %.

4. (Currently Amended) A The stainless steel ~~for a proton-exchange membrane fuel cell separator~~ according to claim 1, wherein ~~[[,]] of oxygens contained in~~ the passive film~~[[,]]~~ has an atomic ratio of O(M) / O(H) between an oxygen O(M) present in the state of a metal oxide and an oxygen O(H) present in the state of a metal hydroxide is 0.9 or less.

5. (Currently Amended) A The stainless steel for a ~~proton-exchange membrane fuel cell separator~~ according to claim 1, wherein the Cr content is 20 to 45 mass %.

6. (Cancelled)

7. (Currently Amended) A The stainless steel for a ~~proton-exchange membrane fuel cell separator~~ according to claim 2, wherein ~~in addition to the composition~~, the stainless steel further comprises at least one selected from a group of items (1)-(4):

(1) Si: 1.0 mass % or less;

(2) Mn: 1.0 mass % or less;

(3) Al: 0.001-0.2 mass % or less; and

(4) Ti or Nb: 0.01-0.5 mass %; or a total of Ti and Nb: 0.01-0.5 mass %.

8. (Currently Amended) A The stainless steel for a ~~proton-exchange membrane fuel cell separator~~ according to claim 2, wherein ~~[[,]] of oxygens contained in~~ the passive film~~[[,]]~~ has an atomic ratio of O(M) / O(H) between an oxygen O(M) present in the state of a metal oxide and an oxygen O(H) present in the state of a metal hydroxide is 0.9 or less.

9. (Currently Amended) A The stainless steel for a ~~proton-exchange membrane fuel cell separator~~ according to claim 3, wherein ~~[[,]] of oxygens contained in~~ the passive film~~[[,]]~~ has an atomic ratio of O(M) / O(H) between an oxygen O(M) present in the state of a metal oxide and an oxygen O(H) present in the state of a metal hydroxide is 0.9 or less.

10. (Currently Amended) A The stainless steel for a ~~proton-exchange membrane fuel cell separator~~ according to claim 7, wherein ~~[[,]] of oxygens contained in~~ the passive film~~[[,]]~~ has an atomic ratio of O(M)/O(H) between an oxygen O(M) present in the state of a metal oxide and an oxygen O(H) present in the state of a metal hydroxide is 0.9 or less.

11. (Currently Amended) A The stainless steel for a ~~proton-exchange membrane fuel cell separator~~ according to claim 3, wherein the Cr content is 20 to 45 mass %.

12. (Currently Amended) A The stainless steel for a ~~proton-exchange membrane fuel cell separator~~ according to claim 4, wherein the Cr content is 20 to 45 mass %.

13. (Currently Amended) -A The stainless steel for a ~~proton-exchange membrane fuel cell separator~~ according to claim 7, wherein the Cr content is 20 to 45 mass %.

14. (Currently Amended) A The stainless steel for a ~~proton-exchange membrane fuel cell separator~~ according to claim 8, wherein the Cr content is 20 to 45 mass %.

15. (Currently Amended) A The stainless steel for a ~~proton-exchange membrane fuel cell separator~~ according to claim 9, wherein the Cr content is 20 to 45 mass %.

16. (Currently Amended) A The stainless steel for a ~~proton-exchange membrane fuel cell separator~~ according to claim 10, wherein the Cr content is 20 to 45 mass %.

17. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 1 is used for the separator.

18. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 2 is used for the separator.

19. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 3 is used for the separator.

20. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 4 is used for the separator.

21. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 5 is used for the separator.

22. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 7 is used for the separator.

23. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 8 is used for the separator.

24. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 9 is used for the separator.

25. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 10 is used for the separator.

26. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 11 is used for the separator.

27. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 12 is used for the separator.

28. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid

polymer film, an electrode, and a separator, wherein the stainless steel according to claim 13 is used for the separator.

29. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 14 is used for the separator.

30. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 15 is used for the separator.

31. (Withdrawn) A proton-exchange membrane fuel cell formed to comprise a solid polymer film, an electrode, and a separator, wherein the stainless steel according to claim 16 is used for the separator.